

February 16, 2016

Dear New Jersey leader:

"Keep the lights on and houses warm."

That's how most of us who work for PSE&G would probably describe our company's main mission. I am proud to say we have been safely and reliably keeping homes and businesses bright and warm for more than 100 years.

While that simple statement may have described the role of a utility in the past, it no longer captures what our electric and gas customers expect from their local utility -- now and in the years to come.

Our customers are telling us it's no longer enough for utilities to provide safe, reliable service. After Superstorm Sandy devastated our state in 2012, consumers are demanding greater resiliency against the kind of severe weather that inundated substations with walls of water and flooded gas mains.

Our customers say they want cleaner energy with lower greenhouse gas emissions that contribute to climate change and global warming.

Our customers – at all income levels -- want access to new technologies and innovation that enable them to control how much electricity and gas they use so they can keep their energy bills affordable.

At PSE&G, we have been giving a lot of thought to these new customer expectations and how we will meet them – all while helping customers lower their bills. I invite you to read the enclosed white paper -- New Jersey's Energy Future – and give us your thoughts and ideas about the challenges we face, and the role our state's utilities can and should play in creating a new energy model on behalf of the people and businesses we serve.

As always, I thank you for the opportunity to share our views. I look forward to hearing from you at Ralph.Larossa@pseg.com or 973 430-8248.

Sincerely,



# New Jersey's Energy Future

- How Customer Demands are Changing
- Customers have always demanded reliability – they want their lights on, their computers humming and homes comfortable. Superstorm Sandy drove a new demand – for resiliency against storms.
- Society, as a whole, is increasingly demanding cleaner energy and lower emissions.
- Customers at all income levels

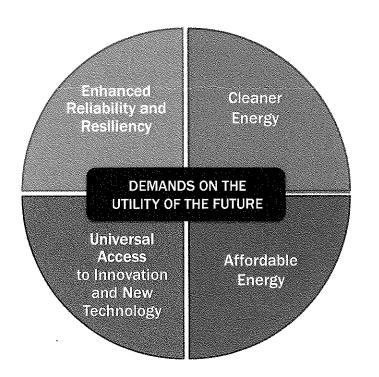
   want access to new technologies

   like solar, high efficiency devices

   and appliances, and innovations that
   enable them to monitor and control

   their energy usage.

Everyone is looking for ways to lower their energy bills!



#### A New Way of Thinking

A modern utility faces a new reality: Our customers want — and need — enhanced reliability and resiliency. That requires substantial investment. Society wants — and the threat of climate change compels us to provide — cleaner energy with lower emissions. That requires further new investment. Our customers want access to high efficiency devices and appliances, as well as the ability to monitor and control their energy usage to lower their bills. Many, but not all, can afford those "smart" devices and appliances. Fairness — and the needs of society as a whole — dictate that we find ways to make those devices and appliances available to customers at all income levels in order to provide universal access to new technology and innovation.

We need to meet all of these new demands, and at the same time, we must help customers lower their bills.

Today's environment requires both utilities and regulators to think and act differently and creatively to meet all of these needs.

### Reliability is Fundamental in Energy: Resiliency is the New Demand

Superstorm Sandy made clear that people expect more from us. They are, quite simply, less patient than in the past. They want fewer outages and when outages occur, they expect them to be short.

At PSE&G, we have responded by investing more than \$10 billion to make our systems more reliable and resilient. We have done this by investing in:

- Raising substations flooded by Sandy;
- Replacing gas mains some close to 100 years old; and by
- Rewiring and upgrading our transmission system.

These investments are not only improving reliability and resiliency, but creating more than 6,000 to 7,000 jobs a year and strengthening the economy. They are fundamental to our efforts to make New Jersey Energy Strong. Streamlining the regulatory process to allow long term planning of these critical programs — as opposed to a cumbersome, new filing process every 18 months to 2 years — will allow more effective planning, lower costs and more consistent job creation. This is particularly critical in today's low-cost cycle with low gas prices and lower electric rates due to long-term charges expiring.



Of course, customers, through rates, pay for these benefits. And that's why the offset from a full program of Energy Efficiency is such a necessity.

### Moving Energy Efficiency from the Periphery to the Center

The fact is: Energy Efficiency is less costly and more impactful than renewables. Yet, while we set aggressive goals for renewables, we have only taken baby steps in the area of Energy Efficiency.

It is estimated that Energy Efficiency can deliver similar benefits as solar or wind at one-tenth the cost. We believe Energy Efficiency must be the centerpiece of a comprehensive effort to build a sustainable energy future in New Jersey.

The cheapest kilowatt remains the one saved.

Even If you don't believe in the impact of climate change, you should care about how Energy Efficiency can lower your utility bill. It just makes economic sense.

Moreover, if society's goal is lower emissions, then Energy Efficiency — improving lighting, replacing old heaters and coolers and even just caulking windows — is the most cost-effective tool we have to fight climate change and thus safeguard the well-being of future generations. A report by the consulting firm McKinsey found that by reducing demand, efficiency improvements could move the world about 25 percent toward the ultimate goal of avoiding the worst impacts

What if?

If New Jersey could reduce energy consumption by 2 percent:

- it would put \$130 million in the packets of New Jersey consumers, and
- · eliminate the emission of 1 million tons of carbon emissions
- this would be equal to taking 200,000 cars off the road

#### Impossible to achieve ?

That is the amount the most energy-efficient states — Massachusetts and Rhode Island — are now achieving.

While we set aggressive goals for renewables, we have only taken baby steps in the area of Energy Efficiency.

of climate change. Since 2009, PSE&G has invested \$300 million in Energy Efficiency programs, achieving annualized electric and gas savings that could power 30,000 homes and provide enough natural gas to supply 6,500 homes throughout the year. We have brought the benefits of Energy Efficiency to institutions like hospitals, thus benefiting the broader public as well. To date, we have made Energy Efficiency improvements at more than 30 hospitals, saving them over \$11.5 million a year in energy costs.

But we could do much more, working with technology providers who are creating new devices every day to help consumers monitor their energy use and turn appliances and devices off and on by a schedule that suits their lifestyles.

If Energy Efficiency is so beneficial, why aren't customers doing it on their own? Because it takes effort. Scores of research studies have documented the barriers to customers investing in Energy Efficiency: most consumers lack information about the benefits of efficient products, have limited resources available for energy-related investments, or are skeptical about whether energy savings will actually materialize and justify their investment. It takes a programmed approach to make it easy.

A utility, with its network and strong customer relationships, can be the ultimate sales channel for riew, clean energy products and services — increasing customer awareness and facilitating their use with easy installation and training.

Energy Efficiency can help offset the costs of investing to make the system more reliable or investing in renewables.

However, to truly reach the potential that Energy Efficiency programs can provide, we need to change the regulatory framework and incentives by which we operate. Utilities need to be equally incented to reduce use as we are to increase it.

Almost every state that excels in reducing customers' bills through Energy Efficiency has their utilities front and center in



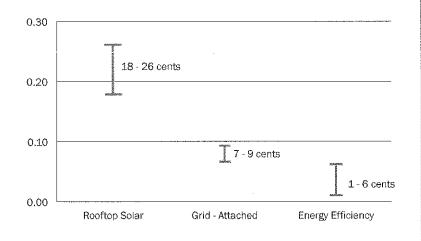
they are wealthier. As you can see in the chart, the median annual income in New Jersey is \$70,000, but the median income of those with net metering is \$107,000. While the gap is narrowing a bit, those with solar have incomes two times the national average — raising the basic issue of fairness.

Moreover, those that have solar panels on their roofs make greater use of the grid — they put energy onto the grid during the day and at night, and on cloudy days take It off, while not paying their share to maintain the grid. That's another policy issue in terms of fairness that eventually must be addressed as solar penetration increases.

We are not against subsidies for solar — all energy sources receive some subsidies. However, we believe it's important for our customers to get the biggest bang for the subsidy buck and ensure that the results are fair. In many cases, that means building more community-based grid solar solutions like the ones deployed by utilities.

This becomes even more important as solar becomes a larger part of the energy mix. The answer to the energy needs of the future is a combination of rooftop and community solar balanced with Energy Efficiency programs.

**Average Cost of Kwh Produced** 



All of the top 10 Energy Efficiency performing states have policies in place to incent utilities to implement Energy Efficiency programs or have set goals for Energy Efficiency.

Most have done both.

## Creating a Model for the Nation with New Thinking and Bold Action

The future which all utilities need to be working towards is one with universal access to more reliable, resilient, cleaner and affordable energy:

- Supporting everyone's ability to live the life they want to live by meeting essential needs for heat, light and comfort;
- · Fueling a growing economy and creating jobs; and
- Doing this in ways that are increasingly in concert with the environment, above all because of the unprecedented need to combat climate change.
- And not only offering universal access to gas and electricity but universal access to solar, and the tools and innovations that allow customers at all income levels to lower their energy bills.
- We need a new regulatory framework that facilitates longterm infrastructure modernization programs and incents utilities to sell less electricity and create Energy Efficiency programs as well as incents utilities to partner with new companies to innovate and offer energy-saving products that lower bills and provide cleaner air.

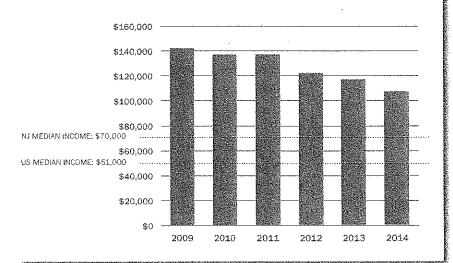
No small challenge ... but if we get it right, we have the opportunity to create a model for our nation — and without exaggeration, for others around the world.



this effort. Utilities are effective at leveraging their assets — their brand, bill, data, capital and customer relationships — to remove barriers to investing in Energy Efficiency.

It's time for new, creative and bold thinking about the role of the utility — with the goal of making Energy Efficiency as universally available as electricity and gas are today. It's a clear win for customers and the environment at the lowest cost possible.

Those With Solar Have Almost Twice The Income of the General Population



### Cleaner Energy: Renewables

Even with a comprehensive Energy Efficiency effort, our customers will still need supply for light, warmth and comfort. The cleanest supply options available are low- and zero-emitting power resources such as nuclear energy and renewables. Both need some level of support to compensate for the lack of a price on carbon. This should not be surprising. Nor should it prompt undue concern. All forms of energy receive some subsidy. However, it is important to look at the design of a subsidy (in terms of who gets it versus who pays for

it) to maximize the kilowatts produced for every subsidy dollar—and ensure fairness.

New Jersey is a leader in the dramatic growth of renewable solar energy around the country — and with increased investment, great progress has been made in bringing down the cost of solar energy, though more remains to be done.

Utilities can play a critical role in making sure the benefits of solar reach all customers by building community-based, larger scale programs. In New Jersey, PSE&G has installed 27 community-based, larger scale solar projects totaling more than 75 megawatts, which feed into the local grid and provide clean electricity to all of our customers.

Larger solar facilities generate energy at 50 to 60 percent of the cost of rooftop solar.

While the sun's energy is free, producing electricity with it is not. There is a cost to renewables in New Jersey. The three main subsidies for solar are the investment Tax Credit (ITC), a federal program that gives back a third of the construction costs; Solar Renewable Energy Credits, or SRECs, a state program that pays solar owners for every megawatt produced; and net metering, which allows solar owners to sell energy at significantly above the wholesale cost. The SREC price in September in New Jersey was around \$230 a megawatt-hour, which equals 23 cents a Kwh. With the energy priced at 3 cents, this makes the all-in cost of solar around 26 cents a Kwh. Last month, the average cost of energy from natural gas was around 3 cents and nuclear 2.5 cents. Even with the drop in panel costs, solar energy, for all of its advantages, remains 5 to 10 times more expensive than traditional sources of electricity.

The ITC is paid for through taxes; SRECs are ultimately funded by charges on energy bills. So we have a situation where all of our customers, including lower income customers, are paying the subsidies but the benefits of solar go to a narrow few — and

A utility – with its network and strong customer relationships – can be the ultimate sales channel for new, clean energy products and services.